

California Native Plant Society

San Diego Chapter of the California Native Plant Society
P O Box 121390
San Diego CA 92112-1390
conservation@cnpssd.org | www.cnpssd.org

November 21, 2016

County of San Diego
Planning & Development Services
Attention: Bulmaro Canseco
CAP Project Manager
5510 Overland Avenue, Suite 110
San Diego, CA 92123
CAP@sdcounty.ca.gov

RE: San Diego County Climate Action Plan Notice of Preparation

Dear Mr. Canseco,

We appreciate the opportunity to comment on San Diego County's Climate Action Plan (CAP), General Plan Update (GPU) and the associated EIR. The San Diego Chapter of the California Native Plant Society (CNPSSD) works to protect California's native plant heritage and preserve it for future generations. CNPS promotes sound plant science as the backbone of effective natural areas protection. We work closely with decision-makers, scientists, and local planners to advocate for well informed and environmentally friendly policies, regulations, and land management practices.

Before proceeding to technical issues, I would suggest a general theme that might be useful. Based on recent national and international political developments, it might be tempting to see this document as an exercise in paperwork that will get filed and forgotten as the US veers away from dealing with climate change. However, given that the world outside the US appears to see climate change as both a serious environmental threat and an increasing opportunity for massive technical innovation that will spur new industries, I simply suggest that San Diego County view climate change as a business opportunity as much as an environmental crisis. While this may sound weird coming from an environmental group, we do not mind people making money while genuinely saving the planet. Ignoring climate change will put the US at an increasing disadvantage against other nations who no longer need or technology or exports. If San Diego County wishes to continue to be an active player in Pacific Rim trade, simple prudence suggests that we follow the rest of the world in taking climate change seriously and adapting our infrastructure and economic system to deal with its realities.

A second theme that might be useful has not been loudly voiced at the CAP community meetings, although I know that at least three participants (including myself) were quietly talking



Dedicated to the preservation of California native flora

about it: the only way to avoid the worst of climate change is to transform society to be powered 100% by renewable electricity. This is a huge transformation, and it is not within the remit of the CAP to get us there. However, the rest of the world is trending in this direction, and it would be useful for the CAP to take this as an underlying assumption while it stays within its programmatic constraints.

In the preparation of the CAP, GPU, and EIR, it will be useful to assume that they will become quickly outdated. Both the politics and the science around climate change evolve rapidly and unpredictably.. We have seen how unpredictable global politics are, and we have similarly seen how climate science rapidly evolves, such that scenarios from a few years ago are now outdated. To cope with this issue, I suggest writing the CAP, GPU, and EIR in a way that they can be updated through supplements rather than total rewrites. One way to do this is to use a highly structured and modular format, so that particular sections that become outdated can be updated, without having to rewrite the entire document. Second, I suggest making the links among sections explicit, so that the effects of change in one section can easily be traced to other sections. Third, I suggest being very explicit about the climate change model used in the report, so that when that model is superseded, it is easier to determine how the changed model (e.g. speed of average temperature increase, sea level rise, size of storms and probability of hurricanes making landfall) impacts the other parts of the documents. In general, try to make it easy for successors to revise the work, not because it is flawed, but because it will inevitably be overtaken by events.

With regard to native plants, we offer five proposals for inclusion:

Plant species need to migrate to adapt to climate change. Wildlife corridors are designed for animals, yet plants will have to use them as well if they are to move to cooler areas. Plants move through migration corridors primarily as seeds, either in animal guts (as berries) or attached to animal coats (as burs). The difference between animal and plant movement is that a seed that germinates inside a wildlife corridor is stuck growing where it fell. Therefore, wildlife corridors designed only for animal movement are insufficient to allow plants to move more slowly through them. They need native habitat, not just underpasses and culverts. Linkages among open spaces need to be designed with this limitation in mind. This needs to be included in the three documents and analyzed in the EIR.

Existing plants contain sequestered carbon, and this carbon store must be recognized in EIRs. In dry California landscapes, much of the plant is underground, and there are few data on how much carbon is underground. Regardless, it is getting easier to use aerial surveys to determine aboveground biomass, and one is in progress in San Diego right now. We strongly suggest that these data be incorporated as a County GIS layer, both so that the impacts of losing the plants can be assessed, and so that innate carbon sequestration every year (or between surveys) can be calculated to help determine the County's carbon budget.

This may sound silly, but in the San Marcos Highlands EIR, the CalFire Vegetation Treatment Program EIR and in others, carbon sequestration has been calculated as if the landscape was bare until the project planted trees, at which point the trees would sequester carbon and decrease the project's carbon footprint. This is fallacious, because bulldozing existing vegetation ends up

releasing carbon from the dead plants, and this impact is not taken into account. To avoid burdening each project proponent with taking a carbon inventory of their parcels, it seems better for the County and government to collect and curate the data. This needs to be included in the three documents and analyzed in the EIR.

Realize that rapid tree growth is not the same thing as superior carbon sequestration. It is also popular to bulldoze old trees because they do not grow as fast as young ones, on the theory that young trees are better at carbon sequestration. This is a simple math failure. For example, a sapling that contains one kilogram of carbon and grows at 100% per year will sequester 1 kilogram of carbon. A mature tree that contains 1,000 kilograms of carbon and grows at 2% per year will sequester 2 kilograms of carbon. Cutting the mature tree down in favor of a sapling decreases the amount of carbon sequestered by 50%. Rapid growth rate is not the same as optimizing carbon sequestration in each plant. This is why it is so important that the County acquire and maintain biomass and carbon sequestration data on its existing vegetation. This needs to be included in the three documents and analyzed in the EIR.

Realize that water and carbon sequestration are linked through tree growth. This is especially true in agriculture, where tree crops like avocados grow primarily when water is affordable, but it also matters with urban and other forestry. The key linkage is that outside the mountains, San Diego county is a distinctly suboptimal region for tree growth, because we are too dry. Sequestering substantial carbon in San Diegan trees almost certainly requires importing more water, and imported water has carbon costs of its own. This is not to say that urban forestry should be ignored, but the carbon costs of importing water to keep trees alive needs to be analyzed in the documents.

Consider offsite mitigation of carbon in northern California. Some of the world champion species for carbon sequestration are redwoods and douglas firs in northern California. Rather than spending money and emitting carbon to import northern California water to San Diego to grow trees for carbon sequestration, it may make more economic sense to enter into long-term programs to preserve northern California forests as carbon banks. Financially, this is simple, as it leaves water where it can best grow trees. Politically it might be problematic, if people clamor for more trees in San Diego, but it would be among the most efficient ways to sequester carbon that cannot otherwise be sequestered within the County.

Thank you for taking these suggestions. Please keep CNPSSD informed on the CAP, by sending announcements to conservation@cnpsd.org, franklandis03@yahoo.com, and by mail to Frank Landis at 14245 Dalhousie Road, San Diego, CA 92129.

Sincerely,

Frank Landis, PhD
Conservation Chair,
CNPSSD.